

VOROB'YEV, Grigoriy Abramovich, doktor fiz.-matem. nauk prof.;
MESYATS, Gennadiy Andreyevich. Prinsipialni uchastiye:
USOV, Yu.P.; KREMNEV, V.V.; MELESHKO, V.K., red.;
MAZEL', Ye.I., tekhn. red.

[Technique for generating high-voltage pulses] Tekhnika
formirovaniia vysokovol'tnykh impul'sov. Moskva, Gos-
atomizdat, 1963. 166 p. (MIRA 17:1)
(Pulse techniques (Electronics))

MESYATS, G.A.; USOV, Yu.P.; GOLYNSKIY, A.I.

Some data concerning the effect of electrode shapes and breakdown voltage on the commutation time of a spark gap. Izv.vys.ucheb.zav.;fiz. no.2:38-41 '63.

(MIRA 16:5)

1. Tomskiy politekhnicheskii institut imeni S.M.Kirova.
(Electric switchgear) (Breakdown, Electric)

L 11395-63

EWP(q)/EWT(m)/BDS AFFTC/ASD Pq-L WH
S/120/63/000/002/039/041

AUTHOR: Usov, Yu. P. and Vorob'ev, G. A.

TITLE: Selection of material for windows in chambers used for investigation of discharges in gases under pressure

PERIODICAL: Pribory i tekhnika eksperimenta, March-April 1963, v. 8, no. 2, 177-178.

TEXT: The article describes tests performed on various ultraviolet-transmitting materials in order to find out whether they could be used as windows in apparatus for investigation of discharges in gases under pressure. Test results show that the best material for 0-50 atm pressure is crystalline LiF, while quartz glass is best at higher pressures. Quartz glass is best under all conditions when maximum ultraviolet-transmission is not necessary. There are four figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernykh issledovaniy elektroniki i avtomatiki pri TPI (Scientific-Research Institute for Nuclear Research, Electronics and Automation at the Tomsk Polytechnic Institute)

SUBMITTED: January 16, 1962
Card 1/1 ja/ch

L 22277-66 EWT(1)

ACC NR: AR6005194

SOURCE CODE: UR/0058/65/000/009/G019/G019

AUTHOR: Usov, Yu. P.

64

TITLE: Spark-light triggering of discharge gaps in gases at
different pressures

B

SOURCE: Ref. zh. Fizika, Abs. 9G153

REF. SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L.,
Energiya, 1964, 79-82

TOPIC TAGS: spark gap, gas discharge, pressure effect, ignition,
dielectric breakdown, cascade

TRANSLATION: Data are presented on the investigation of spark-light
ignition of a discharge gap in air, N₂, O₂, Ar, H₂, and He for dif-
ferent pressures and different parameters of the igniting flash. The
delay of the triggering was recorded with accuracy ± 1.5 nsec. The
results show that in order of magnitude the delay of the triggering
is equal to the time of flight of the electron through the gap, and

Card

1/2

2

L 22277-66

ACC NR: AR6005194

no noticeable ion current is necessary to complete the breakdown. The difference between the delay and the travel time of the electrons increases with increasing gas pressure. The character of the dependence of the delay on E/p is the same for all gases. The range of delay with respect to E/p becomes smaller with increasing gas pressure. I. Popov

SUB CODE: 20

Card 2/2 nst

USOV, Yu.P.

Delayed breakdown of a nonirradiated spark gap at large overvoltages.
Izv. vys. ucheb. zav.; fiz. no.1:81-83 '64. (MIRA 17:3)

1. Tomskiy politekhnicheskii institut imeni Kirova.

AUTHOR: Usov, Yu. P.

TITLE: Determination of electron drift velocity from the cathode of a spark discharge gap

TOPIC TAGS: spark discharge, photocurrent, discharge time, ionization cascade, ultraviolet radiation

ABSTRACT: The electron drift velocity is determined for different gases.

If $t_{st} \gg t_f$, the plot of the discharge time against the field intensity is a straight line, and a current-voltage characteristic deter-

AP4047367
ACCESSION NR: AP4047367

mined from this plot makes it possible to determine the photocurrent
under low radiation intensity conditions. The

art. has: 2 figures.

ABSTRACT: The author calculates the photocurrent under low radiation intensity conditions. The

SUBMITTED: 1980

ENCL: 1

SUB CODE: 2PFM

NEW REF SOUR: 005

OTHER: 002

Card 2/2

ACCESSION NR: AP4038649

S/0109/64/009/005/0882/0887

AUTHOR: Mesyats, G. A.; Usov, Yu. P.; Korshunov, G. S.

TITLE: Investigation of the spark lag in irradiated gaps for use in nanosecond pulse work

SOURCE: Radiotekhnika i elektronika, v. 9, no. 5, 1964, 882-887

TOPIC TAGS: spark gap, spark lag, irradiated spark gap, pulse work, nanosecond pulse work

ABSTRACT: R. C. Fletcher's investigations (Phys. Rev., 1949, 76, 10, 1501) were continued with a view toward using the results in nanosecond pulse work. From a surge generator with a sealed gap K (see Fig 1 of the Enclosure), pulses were applied to an auxiliary 0.5-mm gap G whose spark irradiated the main gap G. The latter was either of an open type or a quartz-window sealed type (at 360 torr). A positive 15-kv peak was used in all the experiments. The irradiation time was varied by altering the length of the G_a supply cable. The effect of the intensity and time of irradiation on the 10^{-9} -sec-front-pulse lag was studied. Also,

Cord 1/3

ACCESSION NR: AP4038649

the effect of the electrode shape and pressure on the spark-formation time was investigated. A multigap delay system is suggested for h-v pulse work. Tests with a 5-gap, 15-kv system showed that, with 2-mm-diameter electrodes and 166-pf capacitors, the time lag could be continuously adjusted within 60-1,000 nanosec. Orig. art. has: 5 figures, 3 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 14Mar63

ENCL: 01

SUB CODE: EC

NO REF SOV: 006

OTHER: 003

Card 2/3

ACCESSION NR: AP4038649

ENCLOSURE: 01

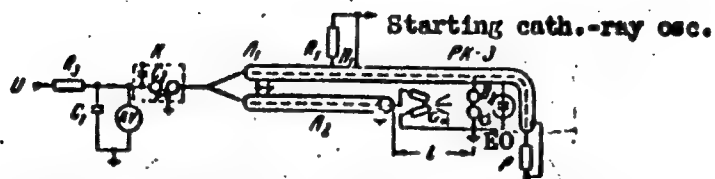


Fig. 1. Experimental hookup for studying the effects of irradiated-gap spark lag

D₁ D₂ - capacitive dividers; K - coaxial chamber;
EO - Event-recording oscillograph

Card 3/3

L 6493-66 EWT(1)/EWA(h)

ACC NR: AP5026493

SOURCE CODE: UR/0286/65/000/019/0026/0026

INVENTOR: Usov, Yu. P.

TITLE: Device for triggering discharge tubes in a high-voltage pulse generator.
Class 21, No. 175085 [Announced by the Scientific Research Institute of Nuclear
Physics, Electronics, and Automation at Tomsk Polytechnic Institute im. S. M. Kirov
(Nauchno-issledovatel'skiy institut yadernoy fiziki, elektroniki i avtomatiki pri
Tomskom politekhnicheskoye institut)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 26

TOPIC TAGS: pulse generator, discharge tube

ABSTRACT: The proposed device (see figure) is designed to trigger discharge tubes

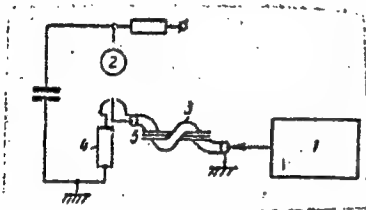


Fig. 1. Triggering device

1 - Trigger-pulse generator; 2 - elec-
trodes of the firing discharge tube;
3 - section of coaxial cable; 4 - load
resistance; 5 - ferromagnetic core.

in a high-voltage pulse generator. To avoid shunting of the load resistance of the
generator by the firing circuit and to protect the trigger-pulse generator against

Card 1/2

UDC: 621.373.43

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L 6493-66

ACC NR: AP5026493

high-voltage effects, the coaxial cable section along which the trigger pulse is transmitted to the firing discharge tube is wound around a ferromagnetic core; the sheath of the cable is grounded on the side of the trigger-pulse generator. Orig. art. has: 1 figure. [DW]

SUB CODE: EC/ SUBM DATE: 24Feb64/ ATD PRESS: 4139

nw

Card 2/2

MALINSKIY, Vladimir Davidovich; VEREVKIN, Yu.Ye., prepodavatel',
retsenzent; USOV, Yu.Ye., prepodavatel', retsenzent;
BASAVINA, Ye.V., red.

[Collection of laboratory papers on amplifying and radio
receiving systems] Sbornik laboratornykh rabot po usili-
tel'nym i radiopriemnym ustroistvam. Moskva, Vysshaya
shkola, 1964. 176 p. (MIRA 17:12)

1ST AND 2ND ORDER																										3RD AND 4TH ORDER																																																																																																																																																																																					
PROCESS AND PROPERTIES INDEX																																																																																																																																																																																																															
<p>CA</p> <p>A description of the deposits of mirabilite, white clays and pure quartz sands of the Borovoe state national park in the Altai region. A. A. Unova. <i>Bull. Acad. Sci. U. R. S. S., Ser. geol.</i> 1966, 115-118 (in English, (18)).</p> <p>Glauber salt in lakes and deposits of mirabilite on the bottom of these and in dried-out lakes were analysed. In the same region kaolinite is wide-spread. Analyses gave SiO_2 86.25%, FeO 0.046% and Fe_2O_3 0.18%. Some of the kaolinite is highly plastic. The quartz sand is low in Fe: 0.12 to 0.31%, FeO and 0.023 to 0.070% Fe_2O_3.</p> <p>S. Ioffe</p> <p>8</p>																																																																																																																																																																																																															
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USOVA, A.B. (Cheliabinsk); LITINSKIY, B.Ye. (Cheliabinsk)

The experiment of the teachers of Lipetsk and teaching physics.
Mat 1 fiz Bulg 5 no.6:39-44 N-D '62.

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX									
Usova, A. K.										A-1									
BC																			
<p>Bentonite from USSR and its use in casting foundries. S. M. Jusupova and A. K. Usova (<i>Compt. rend. Acad. Sci. U.R.S.S.</i>, 1944, 28, 125-128).—Samples from deposits found near Kokand in Uzbekistan give the X-ray diagram and thermograph for montmorillonite, and their swelling capacity, plasticity, and the physical properties of casting sands made with them indicate suitability as a binder in moulding mixes equal to that of bentonite from Djebel, at present the only source in the U.S.S.R. H. C. M.</p>																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX									
1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX									

USOVA, A. N.

MD ✓ The effect of some vitamins on the biology of the oak silk worm. S. Ya. Demyanovskii, V. A. Rozdestvenskaya, E. K. Stakhovskaya, V. Ki Kondrat'eva, and A. N. Usova. *Uchenye Zapiski Gosudarst. Pedagog. Inst.* 77, No. 7, 81-91 (1953); *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 16310. - A study of the effect of nicotinic acid, its amide, of vitamin B₁ (I), p-aminobenzoic acid (II) and of folic (III) and ascorbic (IV) acids on the oak silk worm was made. I and II stimulate the development of silk worm caterpillars, hasten the exudation and the winding of the silk threads, increase the wt. of the caterpillars, and enhance their resistance to the faunlice infection. B. S. Levins

(5)

IVANOVA, A.S.; SHABALIN, S.D.1 MICHURINA, I.A.; SHLENDIK, T.Ye.; PECHEN',
N.G.; YATSENKO, V.A.; USOVA, A.P.; PROLOVA, P.A., otv.red.;
ROGOVSKAYA, Ye.G., red.; VOLKOV, N.V., tekhn.red.

[Agroclimatic reference book on Amur Province] Agroklimaticheskii
spravochnik po Amurskoi oblasti. Leningrad, Gidrometeor.izd-vo,
1960. 134 p. (MIRA 13:11)

1. Khabarovsk. Gidrometeorologicheskaya observatoriya. 2. Khaba-
rovskaya gidrometeorologicheskaya observatoriya (for Ivanova,
Shabalin, Michurina, Shlendik, Pechen', Yatsenko, Usova). 3. Na-
chal'nik Otdela agrometeorologii Khabarovskoy gidrometeorologicheskoy
observatorii (for Ivanova).
(Amur Province--Crops and climate)

ACC NR: AP6032592

SOURCE CODE: UR/0062/66/000/008/1410/1416

AUTHOR: Androyev, V. M.; Usova, A. V.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR
(Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Diene condensation of ethyl γ -ester of β -formylacrylic acid with 2,3-dimethylbutadiene and divinyl, and reaction of the adducts with hydrazine hydrate

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1966, 1410-1416

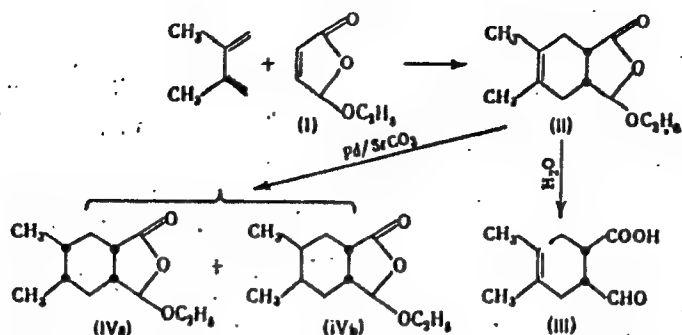
TOPIC TAGS: diene synthesis, butadiene, hydrazine compound, acrylic acid, vinyl compound

ABSTRACT: Diene condensation of ethyl γ -ester (I) with 2,3-dimethylbutadiene produced γ -ester (II), which was reacted as shown below:

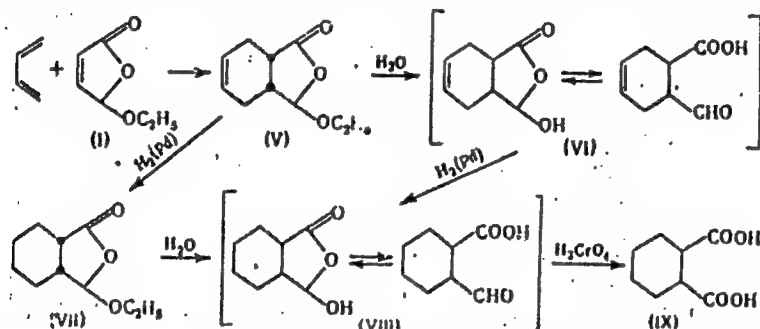
Card 1/4

UDC: 542.91+547.5+541.63

ACC NR: AP6032592



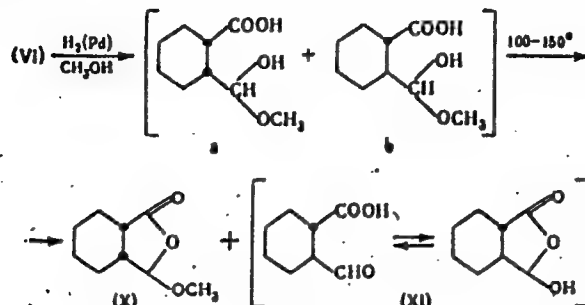
Condensation of (I) with divinyl produced γ -ester (V), whose further reactions are included below:



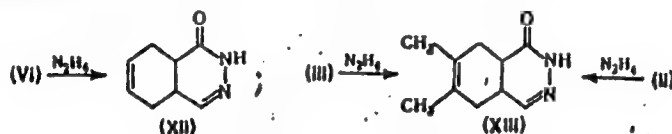
Card 2/4

ACC NR: AP6032592

Hydrogenation of (VI) in methanol involved the following reactions:



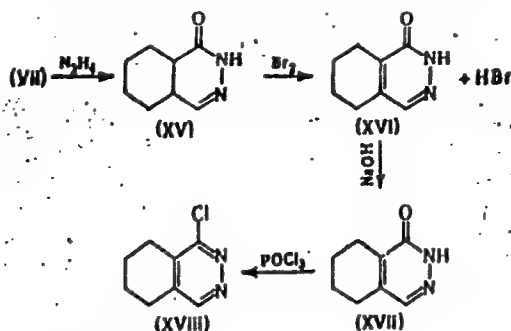
Hexahydrophthalazones (XII) and (XIII) were obtained as follows:



Chlorotetrahydrophthalazine (XVII) was synthesized as follows:

Card 3/4

ACC NR: AP6032592



The synthesized hydrophthalazones can serve as the starting materials in the synthesis of Aprossin analogs. Authors express their thanks to S. S. Yufit for assistance in evaluating the results and to M. B. Shadurova, who participated in the experimental part of this work.

SUB CODE: 07/ SUBM DATE: 13Mar64/ ORIG REF: 003/ OTH REF: 010

Card 4/4

USOVA, A.V. (g. Chelyabinsk).

Elements of agricultural mechanization and electrification in a school
course on physics. Fiz. v shkole 13 no.4:18-24 J1-Ag '53. (MLBA 6:6)
(Agricultural engineering--Study and teaching)

USOVA, A.V.

Demonstration of uniform straight-line motion. Fiz. v shkole
16 no.6:50-51 N-D '56. (MLRA 9:12)

1. Pedagogicheskiy institut, Chelyabinsk.
(Motion--Study and teaching)

USOVA, Antonina Vasil'yevna,;DROZHZHIN, Yu.N., red.; VOLCHEK, V.L.,tekh. red.

[Studying the motion of liquids and gases in secondary schools]

Izucheniye dvizheniya zhidkostey i gazov v srednei shkole. Moskva,

Gou. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1958. 73 p.

(MIRA 11:12)

(Fluid dynamics--Study and teaching)

AUTHOR:

Усова, А.В.
Usova, A.V.

47-58-1-19/35

TITLE:

Demonstration of a Computer of Charged Particles (Demonstratsiya schëtchika zaryazhennykh chastits)

PERIODICAL:

Fizika v Shkole, 1958, # 1, pp 55-56 (USSR)

ABSTRACT:

Computers of charged particles are now available in the stores of "Glavenabpros". They will prove useful for demonstrations in the schools. The author suggests a circuit necessary for the installation of such counter and gives a detailed description. In this installation the counter "STS-5" is used. It can work with a potential of 250-300 v that could be supplied by an anode battery.

There is 1 diagram and 1 figure.

ASSOCIATION:

Pedagogicheskiy institut, Chelyabinsk (Pedagogic Institute, Chelyabinsk)

AVAILABLE:

Library of Congress

Card 1/1

USOVA, A.V. (Chelyabinsk)

Connection between the physics curriculum of rural schools and agricultural machinery. Fiz. v shkole 19 no.1:70-82 Ja-F '59.
(MIRA 12:3)

1. Pedagogicheskiy institut.
(Agricultural machinery) (Physics--Study and teaching)

USOVA, A.V. (Chelyabinsk); TUSHEV, M.N. (Chelyabinsk); VOROB'YEV, S.A.
(Chelyabinsk)

Organizing independent work of students in physics lessons.
Fiz. v shkole 20 no.2:25-30 Mr-Apr '60. (MIRA 14:5)
(Physics--Study and teaching)

USOVA, A.V. (Chelyabinsk)

Organizing independent work of students in physics lessons. Fiz.
v shkole 21 no.2:92-94 Mr-Apr '61. (MIRA 14:8)
(Physics--Study and teaching)

KUCHEROV, V.F.; SEREBRYAKOV, E.P.; USOVA, A.V. _____

Stereochemistry of cyclic compounds. Report No.49: Oxidation of cis-syn- Δ^7 -hydrindene-4,5-dicarboxylic acid and the synthesis of isomeric trans-hydrindane-4,5-dicarboxylic acids. Izv. AN SSSR Otd.khim.nauk no.1:106-112 Ja '62. (MIRA 15:1)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cyclic compounds) (Acids, Organic) (Stereochemistry)

USOVA, A. V. (Chelyabinsk); LITINSKIY, B. Ye. (Chelyabinsk)

Practices of the Lipetsk Province teachers and the teaching of
physics. Fiz. v shkole 22 no.4:30-34 J1-Ag '62.
(MIRA 15:10)

(Physics—Study and teaching)

USOVA, A. V. (Chelyabinsk); KREMLEVA, M. A. (Chelyabinsk)

Students' work with material distributed to them in physics
lessons. Fiz. v shkole 22 no.4:85-87 J1-Ag '62.
(MIRA 15:10)

(Physics—Study and teaching)

KOTOMINA, M.G. (Chelyabinsk); USOVA, A.V. (Chelyabinsk)

Practical work in physics in industrial laboratories. Fiz.
v shkole 23 no.3:43-44 My-Je '63. (MIRA 16:12)

USOVA, A.V.

Development of students' interest in research work during the
process of teaching physics. Fiz. v shkole 23 no.4:45-49
JL-Ag '63. (MIRA 17:1)

1. Pedagogicheskiy institut, Chelyabinsk.

USOVA, E. P., GOLYNTS, N. G., and SNESAREV, K. A.

"Application of the analytical computation method to evaluation of errors in paper chromatography and to refining of the measurement of crystallization temperature"

Report presented at a symposium on the mathematical processing of analytical data was held on 3 March 1964 at the Institute of Geochemistry and Analytical Chemistry, Acad. Sci. USSR

(State Design and Planning Scientific Research Institute of the Nitrogen Industry)

USOVA, E.P.; SNESAREV, K.A.

Quantitative determination of amino acids with the aid of
quinhydrone. Report No.1: Determination of -aminoanthic
acid. Zhur. anal. khim. 19 no.2:243-247 '64.

(MIRA 17:9)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut azotnoy promyshlennosti i produktov organicheskogo
sinteza, Moskva.

USOVA, E.P.; SNESAREV, K.A.

Quantitative determination of amino acids with the aid of
quinhydrone. Report No.2: Quantitative paper chromato-
graphy of higher ω -amino acids. Zhur. anal. khim. 19
no.3:379-382 '64. (MIRA 17:9)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy
institut azotnoy promyshlennosti i produktov organicheskogo
sinteza, Moskva.

USOVA, E.P.; SNESAREV, K.A.

Quantitative determination of amino acids by means of quinhydrone.
Report No.3: Reaction between α -amino acids and p-benzoquinone.
Zhur.anal.khim. 19 no.9:1147-1154 '64. (MIRA 17:10)

1. State Scientific-Research and Design Institute of the Nitrogen
Industry and the Products of Organic Synthesis, Moscow.

USOVA, G.V. (Orsk)

Use of small series conveyors in multiple-style section
assembly lines. Shvein. prom. no.2:28-31 Mr-Ap '63.
(MIRA 16:8)

(Clothing industry)
(Assembly-line methods)

USOVA, I.N.

~~Classification: Secret~~
Determination of the center of narrow axisymmetric beams of γ -
quanta by means of sectional ionization chambers. Dokl. AN SSSR
104 no.3:391-392 S '55. (MLRA 9:2)

1. Fizicheskiy institut imeni P.N. Lebedeva Akademii nauk SSSR
Predstavlene akademikom I. Ye. Tannen.
(Ionization chambers) (Gamma rays)

21.5300
AUTHORS:

Piskov, M.P. and Usova, I.N.

56379

SOV/120-59-5-32/46

TITLE:

A Differential Ionisation Chamber as a Monitor for the Bremsstrahlung from a Synchrotron

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 5, pp 127 - 128 (USSR)

ABSTRACT:

The Bremsstrahlung of a synchrotron is conveniently monitored using a thin-walled ionisation chamber placed in the photon beam in front of experimental apparatus. However, experience with the synchrotron at the Physics Institute of the Ac.Sc., USSR has shown that because of the presence of a considerable electron background which accompanies the photon beam, the monitor readings depend on the maximum energy in the spectrum of the Bremsstrahlung (Figure 1, 1). This fact, together with some instability in the maximum energy, leads to a reduction in the accuracy of such a monitor. In order to improve the accuracy of thin-walled ionisation chambers used as monitors, Veksler has suggested that a differential thin-walled chamber may be used since the sensitivity of such a chamber to the electron background can be made

Card1/3

66379

SOV/120-59-5-32/46

A Differential Ionisation Chamber as a Monitor for the Bremsstrahlung from a Synchrotron

sufficiently low. The differential monitor chamber is in the form of two ionisation chambers placed directly one after another and connected so that the currents subtract. The front wall of the first chamber is a copper foil, 12 μ thick. It also serves as the high-voltage electrode. The rear wall of the first chamber is a thick collecting electrode made of aluminium, which is also the collecting electrode and the front wall of the second chamber. The rear wall of the second chamber is also made of copper foil, 12 μ thick. A voltage of -1 kV is applied to the first chamber and +1 kV to the second. In this way, the charge received by the common collecting electrode is proportional to the difference in the currents through the two chambers. As a result of the fact that the front wall of the first chamber is very thin, the current in the first chamber is mainly due to the electron background. Conversely, the current through the second chamber is mainly due to secondary electrons produced by the photons

Card 2/3

66379

SOV/120-59-5-32/46

A Differential Ionisation Chamber as a Monitor for the Bremsstrahlung from a Synchrotron

in aluminium. The contribution of the electron background to the ionisation in this chamber was determined by studying the change in the ionisation current of an identical subsidiary chamber by varying the thickness of its front wall between 15 μ and 1 mm of aluminium. The contribution turns out to be about 30% of the total ionisation produced in the second chamber. The dependence of the readings of the relative monitor with the thin-walled differential chamber on the maximum energy of the Bremsstrahlung spectrum of the synchrotron mentioned above is shown by Curve 2 in Figure 1. As can be seen, the effect of the electron background is reduced. There is 1 figure.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute of the Ac.Sc., USSR)

SUBMITTED: August 21, 1958

Card 3/3

USOVA, I.N.

Absolute measurement of the intensity of high-energy gamma radiation by the method of pair difference. Zhur. tekhn. fiz. 30
no.6:665-671 Je '60. (MIRA 13:8)

1. Fizicheskii institut im. P.N. Lebedeva AN SSSR, Moskva.
(Gamma rays)

USOVA, I. N. Cand Phys-Math Sci -- "Ionization methods of absolute measurements of the intensity of high-energy gamma-radiation." Mos, 1961 (Min of Higher and Secondary Specialized Education RSFSR. Mos Phys-Engineering Inst). (KL, 4-61, 185)

-47-

20681

S/120/61/000/001/015/062
E032/E114

26.2246

AUTHOR: Usova, I.N.

TITLE: Application of Sector Ionization Chambers to the
Absolute Measurement of the Intensity of High-Energy
Gamma-Rays

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.53-55

TEXT: In a previous paper (Ref.1) the author described a sector ionization chamber designed for the location of the axis of the γ -ray beam of an electron accelerator to an accuracy of ± 0.1 mm. The design of the chamber is illustrated in Fig.1. Owing to the fact that the two sector-shaped cavities 1, 2, have a common collecting electrode and the high-voltage electrodes 3, 4, have opposite polarities (± 1500 V), the charge flowing to the collecting electrode 5 is proportional to the difference between the currents through the sectors 1 and 2. When this difference is zero the beam axis coincides with the axis of the chamber and the energy fluxes U_1 and U_2 passing through the transverse cross-sections of the sectors 1 and 2 are equal. This fact can be used in the determination of the energy flux due

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S/120/61/000/001/015/062

E032/E114

Application of Sector Ionization Chambers to the Absolute Measurement of the Intensity of High-Energy Gamma-Rays

to high-energy γ -rays by measuring the difference in the number of electron-positron pairs from thin converters 3, 4. As shown by Blocker et al. (Ref.2) this method consists in the calculation of the energy flux from the current difference $I(Z_1) - I(Z_2)$ for converters with different atomic numbers Z_1 and Z_2 but equal numbers of electrons per cm^2 of surface. Normally, plane parallel ionization chambers are employed in this method. However, sector chambers have the advantage that the current difference can be measured directly to within 1-2%. The intensity is measured as follows. The axis of the chamber is brought into coincidence (by remote control) with the beam axis. The front walls of the sectors are replaced by the converters, in which case the current difference is related to the energy flux by

$$U = \Delta I / e g(Z_1) R_{1-2} \quad (1)$$

where e is the electronic charge, $g(Z_1)$ is the effective

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S/120/61/000/001/015/062
E032/E114

Application of Sector Ionization Chambers to the Absolute
Measurement of the Intensity of High-Energy Gamma-Rays
depth of the chamber for electrons leaving the converter with
atomic number Z_1 , and R_{1-2} is given by

$$R_{1-2} = \frac{\int_0^{W_{\max}} \sigma_n(W, Z_1) - \sigma_n(W, Z_2) f(W) \overline{i(W)} dW}{\int_0^{W_{\max}} W f(W) dW}$$

In this expression $\sigma_n(W, Z_1)$ is the number of pairs produced in
the converter with atomic number Z_1 , $f(W)$ is the number of
photons of energy W , $\overline{i(W)}$ is the mean number of pairs of ions
produced by the electron positron pairs per unit path length and
 ΔI is the current difference between the two sectors which is
measured directly. The ratio $g(Z_1)/g(Z_2)$ was calculated by the
present author to an accuracy of 1.5-2% in Ref.3. The absolute
accuracy of the intensity measurement is said to be 7%, while in
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EO32/E114

Application of Sector Ionization Chambers to the Absolute
Measurement of the Intensity of High-Energy Gamma-Rays

the case of the plane parallel ionization chamber the accuracy is 10-15%. The device has been used on the synchrotron of the Fizicheskii institut AN SSSR (Physics Institute, AS USSR) ($W_{max} = 260$ MeV). The results obtained were found to be in good agreement with determinations by other methods, made later by a group of physicists under the direction of V.I. Gol'danskiy. Acknowledgements are made to V.I. Veksler and P.A. Cherenkov for interest, and to A.I. Yudin and P.A. Zaytsev who built the chamber. There are 1 figure, 1 table and 4 references, 2 Soviet and 2 non-Soviet.

ASSOCIATION: Fizicheskii institut AN SSSR
(Physics Institute, AS USSR)

SUBMITTED: February 16, 1960

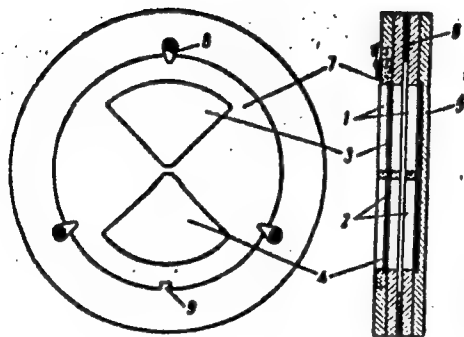
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S/120/61/000/001/015/062

Application of Sector Ionization..E032/E114

Fig. 1



Card 5/5

USOVA, I.N.

Determining energy flux in a high-energy photon beam by the
area below the cascade curve. Prib. i tekhn. eksp. 6 no.4:27-30
Jl-Ag '61. (MIRA 14:9)

1. Fizicheskiy institut AN SSSR.
(Photons)

37785

S/120/62/000/002/008/047
E039/E520

21.6000

AUTHOR: Usova, I.N.

TITLE: The absolute sensitivity of a thick-walled graphite ionisation chamber for photons with energies up to 260 MeV

PERIODICAL: Priory i tekhnika eksperimenta, no.2, 1962, 36-42

TEXT: The method of calculating the absolute sensitivity of a thick-walled graphite chamber described in this paper is more accurate than previous calculations by other workers. The effects of density, multiple Compton scattering, radiation loss, annihilation positrons in the chamber wall, ionisation losses, the nonlinear relation between path length and energy etc. are taken into account. The expression derived for the sensitivity of the chamber is:

$$S(W_{\max}) = \frac{\int_0^{W_{\max}} W f(W) \{ [f_1(W)/f(W)] \tau(W) s_1(W) + [f_2(W)/f(W)] \tau(W) s_2(W) \} dW}{\int_0^{W_{\max}} W f(W) dW} \quad (16)$$

Card 1/3

The absolute sensitivity ...

S/120/62/000/002/008/047
E039/E520

where $s_1(W)$ and $s_2(W)$ are the fractions of the energy of photons of energy W used in ionisation, forming secondary electrons with path lengths $R < T$ and $R > T$ respectively, where T is the thickness of the front wall of the chamber, $\tau(W)$ is the photon absorption coefficient, $f(W)$ gives the spectrum of the synchrotron. The calculations are carried out for a chamber with a front wall thickness of 4.5 cm and depth of working volume 1.04 cm for a maximum energy of 260 MeV. This gives a value of $-(0.83 \pm 0.06) \cdot 10^{-5}$ whereas the value obtained in the previous calculations was $-1.02 \cdot 10^{-5}$. The more accurate treatment giving a value $\sim 20\%$ lower than before. The accuracy of the formula obtained is about $\pm 7\%$. This error is made up of inaccuracies in the values for the spectrum of the synchrotron, ionisation loss, the cross-section for Compton scattering and formation of pairs, the absorption coefficient for photons etc. and also by neglecting the development of cascade processes. It is noted that if the development of cascade processes is taken into account that the formula for the absolute sensitivity of the chamber remains practically unchanged for photon energies up to $W_{\max} \sim 1$ BeV. There are 5 figures and 4 tables.

Card 2/3

The absolute sensitivity ...

S/120/62/000/002/008/047
E039/E520

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute AS USSR)

SUBMITTED: June 20, 1961

Card 3/3

TSATLIN, A.L.; USOVA, K.I.

Periodicity in the excretion of intestinal protozoa. Dokl.
AN Tadsh.SSR no.5:31-34 '52. (MLRA 9:10)

1. Tadzhikskiy institut malyarii i meditsinskoy parazitologii.
Predstavleno chelnom-korrespondentom AN Tadzhikskoy SSR
N.F. Berezkinym.
(Protozoa)

USOVA, K. K.

28009. USOVA, K. K. -- Blizhayshiye klinicheskie rezul'taty lecheniya khronicheskikh. ognestrel'nykh. Osteomielitov po materialam respublikanskogo gosptalya. (tashkent). Trudy pervoy nauch. Mezhrasp. Konf-tsii po lecheniyu invalidov otechestv. Voyny v sred. Azii. Tashkent, 1949, S. 117-23.

SO: Letopis' Zhurnal'nykh Statey. Vol: 37, 1949.

USOVA, K. M.

V. M. ROSHKOV, ZhPhysiol, 1935, 12, 582-584

USOVA, K.M.

V.M. ROZHKOV, J. Physiol. USSR, 19, 1935, 582-4

USOVA, L. F.

USOVA, L. F.: "Investigation of the aging of technical iron". Moscow, 1955.
Min Higher Education USSR. Moscow Order of Labor Red Banner Inst of
Steel imen' I. V. Stalin. (Dissertations for the degree of Candidate of
Technical Science.)

SO: Kniznaya Letopis' No. 50 10 December 1955. Moscow.

USOVA, L.F.; FINKEL'SHTEYN, B.N.

Determining the activation energy in the aging of commercial
iron. Nauch. dokl. vys. shkoly; met. no.1:163-168 '58.
(MIRA 11:9)

1. Moskovskiy inatitut stali.
(Iron--Hardening) (Activity coefficients)

137-58-4-8150

USOVA, L. F.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 255 (USSR)

AUTHORS: Finkel'shteyn, B.N., Usova, L. F.

TITLE: The Aging of Technical Iron Investigated by the Internal-friction Method (Issledovaniye stareniya tekhnicheskogo zheleza metodom vnutrennego treniya)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 176-190

ABSTRACT: Three grades of technical iron from different melts were investigated by measuring the extinction rate of low-amplitude torsional oscillations of wire specimens 315 mm long and 0.7 mm in diameter, and also by measurement of the shear modulus and Young's modulus of elasticity during the aging process, and microstructure investigation by optical and electron microscopy. The moduli were determined by the natural frequency of the longitudinal and torsional oscillations of specimens 250 mm long and 4 mm in diameter. The single-stage quartz method was used in making copies. Stress relief was performed by annealing for 2 hours in vacuum at 700°C and cooling in the oven. Quenching was from 700° in 10% NaCl. A study was made of the change in the low-temperature peak of internal friction during the aging

Card 1/2

137-58-4-8150

The Aging of Technical Iron Investigated by the Internal-friction Method

process at 60, 80, 90, 100 and 120°. The number of C and N atoms in the solid solution was calculated by the magnitude of the change in the peak. It was established that the solubility of C and N in α -Fe at room temperature is lower than the values quoted in the literature. The solid solution remains oversaturated both after quenching and after annealing at 700° and cooling for 10 hours. The rate of decomposition (RD) of the solid solution increases with a rise in aging temperature and degree of oversaturation. The aging process clearly divides into three periods: 1) the RD of the solid solution is low; 2) a rapid rise in RD, attaining a maximum, followed by a rapid drop thereafter; 3) a slow decline in RD. The quantity of the precipitated phase at various moments of aging is determined. It is found that the moduli of elasticity do not change in the course of the aging process.

A. F.

1. Iron--Aging--Analysis
2. Iron--Mechanical properties--Aging effects

Card 2/2

AUTHORS: Usova, L. F., Finkel'shteyn, B. N. SOV/163-58-1-30/53

TITLE: The Determination of the Activation Energy of the Aging of Technical Iron (Opredeleniye energii aktivatsii stareniya tekhnicheskogo zheleza)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 163-168 (USSR)

ABSTRACT: The activation energy in the aging after the hardening of the technical iron alloys Nr 5 and 6 was investigated. The course of the kinetic curves of deformed samples, which depends on the various temperatures of aging, is analogous to the course of the aging curves after hardening. The activation energy was determined from the kinetic curves by two methods:

- 1) For every temperature the time is determined within which part of the C and N deposited in the iron are separated from the solid solutions. In the case of iron sample Nr 6 (in hardened state) the activation energy amounts to 13500 ± 500 cal/mole, and for sample Nr 5 (in hardened state) to 20000 ± 500 cal/mole. The activation energy of deformed samples of the iron alloy Nr 6 amounts to 8600 cal/mole.
- 2) The activation energy was calculated by means of the formula

Card 1/3

SOV/163-58-1-30/53

The Determination of the Activation Energy of the Aging of Technical Iron

$$H = \frac{4,6 T_2 T_1}{T_2 - T_1} \lg \frac{1 \varepsilon C_2}{1 \varepsilon C_1} \quad (2)$$

The activation energy calculated in this way for iron alloy Nr 6 amounts to 13000 - 16000 cal/mole, for iron alloy Nr 5: 18000 - 20000 cal/mole (both in hardened state). The activation energy may also be determined by its dependence on the internal friction as well as the frequency and the temperature occurring on that occasion. Taking into account this dependence the following formula was derived:

$$H = \frac{R T_1 \cdot T_2}{T_2 - T_1} \ln \frac{f_2}{f_1}$$

where H denotes the activation energy, R the gas constant, T_1 and T_2 the absolute temperatures at the maximum, f_1 and f_2 the frequency.

In using this formula for iron alloy Nr 6 15500±500 cal/mole were found for the activation energy at different frequencies. As may be seen from the result obtained the activation energy for iron alloy Nr 5 differs considerably from that of Nr 6. The lattice state in the alloys influences the activation energy.

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SOV/163-58-1-30/53

The Determination of the Activation Energy of the Aging of Technical Iron

The state of the crystal lattices is influenced by various impurities.

There are 4 figures, 1 table, and 7 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 1, 1957

Card 3/3

14

USOVA, L. F.

PHASE I BOOK EXPLANATION 807/505

Moscow. Institut stali

Belastatsionnyye yevlaniya v metallakh i splavakh: Izv. Vsesoyuznogo nauchnoissledovatel'skogo tsentra po metallurgii i metallovedeniyu. (Belastatsionnyye yevlaniya v metallakh i splavakh: Transactions of the Inter-Institute Conference) Moscow, Metallurgizdat, 1969. 306 p.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya
Kryukh and Moskovskiy institut stali Leon I.V. Stalina.

Ed. (with preface): B.M. Priblud'nikov; Ed. of Publishing House: Ye.I. Levitskiy, Tech.
Ed.: A.I. Krasov.

PURPOSE: This collection of articles is intended for personnel in scientific institutions and schools of higher education and for physical metallurgists and physicists specializing in metals. It may also be useful to students of these fields.

CONTENTS: The collection contains results of experimental and theoretical investigations carried out by schools of higher education and scientific research institutions in the field of the relaxation phenomena in metals and alloys. Several articles are devoted to the investigation of the internal-friction method-of the decomposition of superaturated solid solutions. Also analyzed are the defects of the crystalline lattice, plastic deformations, high-temperature behavior of alloys, and creep. Problems of the relation between internal friction and temper brittleness, the use of the method of internal friction in the investigation of powder-metallurgy products, and the mechanics of impact failures are discussed. The collection also contains articles on the damping characteristics of materials, elastic after-effect, and the new slow-detection method. Personalities are mentioned. References follow most articles. There are 306 references: 136 Soviet and 170 non-Soviet.

Ed.: B.M. Priblud'nikov (Moscow Steel Institute). On Dispersion Correlations in the Theory of Elastic Relaxation 55

Glazdubov, E.P., and A.A. Sazonov (Dnepropetrovskiy metallurgicheskii institut (Dnepropetrovsk Metallurgical Institute)). Effect of the Tempering Temperature After Quenching and the Temperature of Isothermal Processing on the Vibration Damping in the Silicon Spring Steel 53

Glazdubov, E.P., M.P. Alekseyenko, and L.B. Fedotova (Moscow Steel Institute and Vsesoyuznyy institut aviatstsionnykh materialov (All-Union Institute of Aviation Materials)). Effect of the Temper Brittleness of High-Chromium Steels on the Internal Friction 64

Chernikova, I.N. (Moscow Steel Institute). Study of the Tempering of Carbon Steels by the Internal-Friction Method 55

Kristal, M., and S.A. Golovin (Poltavskiy nauchnoissledovatel'skiy institut (Poltav Metallurgical Institute)). On the Problem of the Internal Friction in Hardened and Tempered Steel 95

Ershov, M.A., and S.A. Golovin (Poltavskiy nauchnoissledovatel'skiy institut (Poltav Metallurgical Institute)). Relative Damping of Torsional Vibrations in Heat-Treated UTA Steel 101

Mikhe, E.K., and Karel Tomaz (Institute of Technical Physics of the Czechoslovak Academy of Sciences). Aging of the Aluminum-Silver Alloy 104

Mal'tsev, O.E., and V.B. Potapov (Kemerovskiy pedagogicheskii institut (Kemerovo Pedagogical Institute)). Decomposition of the Superaturated Beryll-Copper Solid Solution 109

Polyakov, S.M. (Institut Chernoy Metallurgii AN URSSR (Institute of Ferrous Metallurgy of the Academy of Sciences USSR)). Behavior of Carbon in o-Iron Alloyed With Manganese and Molybdenum 118

Glinitskiy, B.G., Yu.B. Arsenov, V.B. Potapov, S.O. Koshenkov, and L.S. Polyakov (Moscow Steel Institute). Internal Friction of Metastable Solid Solutions 125

Shtra, L.P. (Moscow Steel Institute). Investigation of the Carbon Influence on the Properties of Low-Carbon Steel by the Method of Measuring Internal Friction 138

Adzhariy, G.M. (Moscow Steel Institute). The High-Temperature Internal Friction of Iron-Vanadium Alloys 145 2/

USOVA, L.F.

Determina ion of gases in metals by the internal friction method.
Trudy kom.anal.khim. 10:215-224 '60. (MIRA 13:3)

1. Institut stali im. I.V.Stalina, Moskva.
(Gases in metals)

USOVA, L. K., GRYAZNEV, V. M., ILIASHIN, Yu. P., and FROST, A. V.

"X-ray Investigation of Palladium Catalysts on Silica Gel., "
Dokl. Ak. Nauk SSSR, 65, 367-70, 1949.

In catalysts with 1.41, 1.03, and 0.49% Pd, the lattice const. of Pd is identical with that of the massive metal. From the half-widths of the lines by Scherrer's formula, the Pd particles are cubic, and the length of the side of a particle, in the 1.41% Pd catalyst, is of the order of 240 Å.

(Battelle)

SOLNTSEV, N.I.; USOVA, L.V.

Separate determination of copper, chalcocite, and bornite
in ores; some investigations with digenite and betokhtinite.
Sbor. nauch. trud. Gintsvetmeta no.19:756-772 '62.

(MIRA 16:7)

(Copper ores—Analysis)

NIKONOVA, O.S., USOVA, M.F.

Cerebral melanomas [with summary in French]. Zhur.nevr. i psikh.
58 no.5:526-528 '58 (MIRA 11:7)

1. Klinika nervnykh bolezney (zav. kafedroy - prof. N.I. Grashchenkov) Tsentral'nogo insituta usovershenstvovaniya vrachey i nervnoye otdeleniye bol'nisty imeni S.P. Botkina, Moskva.
(MELANOMA, case reports,
brain (Rus))
(BRAIN NEOPLASMS, case reports
melanoma (Rus))

USOVA, M.K.; IL'INA, N.A.; MEL'NIKOVA, Ye.M.

Clinical and physiological analysis of the effectiveness of acupuncture in radiculitis; preliminary communication. Zhur.nev. i psikh. 59 no.6:723-728 '59.
(MIRA 13:1)

1. Laboratoriya igloterapii (nauchnyy rukovoditel' - prof. N.I. Grashchenkov) Instituta psikiatrii (dir. - prof. D.D. Fedotov) Ministerstva zdavookhraneniya SSSR, Moskva.

(ACUPUNCTURE, in var. dis.

radiculitis (Rus))

(NERVES, SPINAL, dis.

radiculitis, acupuncture (Rus))

GRASHCHENKOV, N.I.; KASSIL', G.N.; USOVA, M.K.; VEYN, A.M.; IL'INA, N.A.;
KAMENETSKAYA, B.I.; MEL'NIKOVA, Ye.M.

Application of acupuncture in certain diseases; clinical physiological
investigations. Zhur.nevr.i psikh. 59 no.10:1159-1166 '59.

(MIRA 13:3)

1. Laboratoriya reflektornoy terapii Instituta psikhiatrii (direktor -
prof. D.D. Fedotov) Ministerstva zdравookhraneniya SSSR, Moskva.
(ACUPUNCTURE)

OSIPOVA, N.N.; USOVA, M.K.

Changes in vascular reactions during acupuncture in
practically healthy people. Sbor. trud. GMI no.9:115-123
'62. (MIRA 17:2)

1. Dotsentskiy kursigloukalyvaniya, kafedra klinicheskoy
i eksperimental'noy fiziologii (zav. kafedroy Ye.F. Polezhayev)
TSentral'nogo instituta usovershenstvovaniya vTachey (dir. -
M.D. Kovrigina).

USOVA, M.M., Leningrad, 67, ul. Kurakina, d. 1/3 pavil'on, kv.25.

Osteosynthesis of fractures with metal and plastic nails.
Vest.khir. 76 no.5: 37-44 Jo '55. (MLBA 8:10)

1. Iz fakul'tetskoy khirurgicheskoy kliniki Leningradskogo
sanitarno-gigiyenicheskogo meditsinskogo instituta (sav.-
kafedroy-prof. P.N. Kapalkov)
(FRACTURES, surgery,
intramedullary nailing)

USOVA, M. M. Cand Med Sci -- (diss) "Treatment of closed fractures of the
clavicle with ^{plastic plate} ~~metalplastmass~~ osteosynthesis." Len, 1957. 8 pp (Min of Health
RSFSR. Len Sanitary Hygiene Med Inst), 200 copies (KL, 45-57, 99)

USOVA, M.M., assistant (Leningrad, Kurakina ul., 1/3, 32-y pav., kv.25)

1. Metal-plastic osteosynthesis for treating closed fractures of the clavicle [with summary in English]. Vest.khir. 78 no.4:62-65 (MLRA 10:9) Ap '57.

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. P.N. Nepalkov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(CLAVICLE, fractures,
osteosynthesis (Rus))

USCVA, M.M.

EXCERPTA MEDICA Sec 9 Vol. 12/6 Surgery June 58

3108. (74C) METAL AND PLASTIC OSTEOSYNTHESIS OF CLOSED CLAVICLE
FRACTURES (Russian text) - Usova M. M. - VESTN. KHIR, 1957, 78/4
(82-85) Illus. 2

Shafts of stainless steel (E Ya I T) covered with a polymethylmethacrylic sheath were used for osteosynthesis of the clavicle. These shafts are found to be 2 or 3 times more reliable than those of organic glass. Fifty patients were operated upon with excellent results in 33, good in 11, fair in 5 and poor in one patient. The outcome in patients non-surgically treated was obviously worse, and the fitness for work was sooner regained by the former than by the latter.

USOVA, M.M., kand.med.nauk

Surgery for cancer of the large intestine as revealed by data
of the Mechnikov Hospital from 1946 to 1958. Trudy ISGM 59:
244-250 '60. (MIRA 14:9)

1. Fakul'tetskaya khirurgicheskaya klinika Leningradskogo sanitarno-
gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof.
P.N.Napalkov).

(INTESTINES--CANCER)

USOVA, M.M.

Transnasal usage & dénouement of the stomach and small intestine
following resection and gastrectomy. Study LBMI 74:225-231 '74.
(JIRA 17:10)

USOVA, Mariya Mikhaylovna; TEL'MAN, I.M., red.; ONCSHKO, N.G.,
tekhn. red.

[Closed injuries of the clavicle] Zakrytye povreshdeniia
kliuchitsy. Leningrad, Medgiz, 1963. 103 p. (MIRA 16:10)
(CLAVICLE--FRACTURE)

USOVA, M.M. (Leningrad, K-67, ul. Kurakina, 1/3, prev. 13)

Some problems in the surgery of rectal tumors. Vop. onk. 10
no.2:111-115 '64. (MIRA 17:7)

1. Iz kliniki khirurgicheskikh bolezney Leningradskogo sanitarno-
gigiyenicheskogo meditsinskogo instituta (zav. - zasluzhennyy
deyatel' nauki prof. P.N. Napalkov).

USOVA, M.M., kand. med. nauk (Leningrad, K-17, Zabaykal'skaya ul., 12, kv.33)

Simple stand for easy application of a plaster cast to the leg.
Vest. khir. 92 no.6:107-108 Je '64. (MIPA 18:5)

1. Iz kliniki khirurgicheskikh bolezney (zav. - prof. P.N. Napalkov)
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001858210006-0

LSOYA, M. S.

AT
101 ~~*YONE*~~

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001858210006-0"

USCVA, M.S.

USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19598

Author : Z. V. Pushkareva, M. S. Usova, O. I. Levchenko
Inst : Polytechnical Institute of Uralsk
Title : To The Question of Utilizing Organic Compounds
in Analysis of Platinum Metals and Gold. Report
I. Power of Series of Heterocyclic Compounds to
Precipitate Platinum Metals from Solutions.

Orig Pub: Tr. Ural'skogo Politekhn. In-ta, 1956, sb. 57,
183 - 191.

Abstract: The power of 23 heterocyclic compounds (HC) -
derivatives of pyridine, quinoline, acridine,
phenazine, pyrimidine, sulfathiazole and pheno-
thiazine containing Cl, NH₂, NO₂, OH, SH and OCH₃

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USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref. Zhur-Khimiya, No 6, 1957, 19598

as substitutes - to precipitate platinum metals (PM) was studied qualitatively. Some sulfamides containing heterocyclic groups and complex derivatives of acridine were studied also. The study of PM precipitation was carried out at pH 0 and 2 at the indoor temperature and at 100°. It was shown that the capacity of HC to produce complexes with PM increased together with the molecule polarity. Among all the studied HC, phenothiazine produced the most stable complexes with PM and it was recommended for the quantitative determination of PM. None of the studied HC produced precipitations with non-precious metals under described conditions. Among the studied HC there was none

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USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19598

that would act sufficiently selectively on any individual PM.

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USOVA, M.S.

Category: USSR/Analytical Chemistry - General Questions.

G-1

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30932

Author : II. Usova M. S., Pushkareva Z.V., Levchenko O. I.
 III. Usova M. S., Gayeva N. F.

Inst : Urals Polytechnical Institute

Title : Use of Organic Compounds in the Analysis of Platinum-Group Metals and Gold. Communication II. Precipitation Capacity of Some Noble Metals in the Urea, Thiourea and Guanidine Series. Communication III. Use of Phenothiazine for the Determination of Platinum in Alloys.

Orig Pub: Tr. Ural'skogo politekhn. in-ta, 1956, sb. 57, 192-200; 201-206.

Abstract: II. Report of the results of qualitative tests on the capacity of some substituted urea, thiourea (I) and guanidine (II) compounds, to precipitate platinum metals (PM) from solution. Introduction of phenyl- and heterocyclic residues into the molecules of I and II, clearly enhances the capacity of I and II to precipitate noble metals from solution. The introduction into the

Card : 1/2

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Category: USSR/Analytical Chemistry - General Questions

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001858210006-0

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30932

phenyl rings of diphenyl-thiourea of COOH and SO₂NH₂ groups promotes the secondary process of precipitation of common metals. The capacity of I and II to precipitate Rh increases on transition from derivatives of II to derivatives of I, while on the other hand precipitation of Ir is observed more frequently in the II series. Introduction of a third substituent into the molecule of II decreases considerably the solubility of the compounds formed with PM. The results thus obtained permit to select a number of derivatives of I and II for further study, of their properties as analytical reagents. III. A study of the capacity of phenothiazine to precipitate specific PM (Pt, Pd, Rh and Ir), for the purposes of qualitative analysis, and also the description of a quantitative method which has been developed for the determination of Pt in solutions of pure Pt salts, in artificially produced mixtures and in silver-platinum alloys, by precipitation with phenothiazine, followed by calcination of the resulting precipitate to metallic Pt. Communication I, see RZhKhim, 1957, 19598.

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UL'YANOV, Andrey Vladimirovich; KHEL'KIST, German Avgustovich; USOVA,
N., redaktor; TROFIMOV, A.V., tekhnicheskii redaktor.

[Geology of oil and gas deposits] Geologiya neftiannykh i
gazovykh mestorozhdenii. Moskva, Gos.nauchno-tekhn.isd-vo
neftianoi i gorno-toplivnoi lit-ry, 1955. 297 p. (MLBA 8:12)
(Petroleum geology)

TOPCHIEV, A.V., akademik, redaktor; TROFIMUK, A.A., redaktor; TREBIN, F.A., doktor tekhnicheskikh nauk, redaktor; FEDYNSKIY, V.V., doktor fiziko-matematicheskikh nauk, redaktor; SUKHANOVA, V.P., inzhener, redaktor; POSTNIKOV, V.G., redaktor; VOL'FSON, S.I., redaktor; BEKHMEN, Yu.K., vedushchiy redaktor; KOVALEVA, A.A., vedushchiy redaktor; PERSHINA, Ye.G., vedushchiy redaktor; SAVINA, Z.A., vedushchiy redaktor; USOVA, N.G., vedushchiy redaktor; ZAMARAYEVA, K.M., vedushchiy redaktor; NOVIKOVA, M.M., vedushchiy redaktor; L'VOVA, L.A., vedushchiy redaktor; YERSHOV, P.R., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskii redaktor; TROFIMOV, A.V., tekhnicheskii redaktor

[4th International Petroleum Congress] IV Mezhdunarodnyi neftianoi kongress. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry. Vol.1. [The geology of oil and gas deposits] Geologiya nefti i gazovykh mestorozhdenii. (Pod red. A.A.Trofimuka). 1956. 534 p. Vol.2. [Geophysical methods in prospecting] Geofizicheskie metody razvedki. (Pod red. V.V.Fedynskogo). 1956. 392 p. Vol.4. [The technology of oil and shale processing] Tekhnologiya pererabotki nefti i slantsev. 1956. 527 p. Vol.5. [Chemical processing of oil and gas] Khimicheskaya pererabotka nefti i gaza. 1956. 302 p. Vol.8. [Equipment, metals and protection from corrosion] Oborudovanie, metally i zashchita ot korrozii. 1956. 227 p. (MLRA 9:12)

1. International Petroleum Congress, 4th, Rome, 1955. 2. Chlen-korrespondent AN SSSR (for Trofimuk)
(Prospecting--Geophysical methods) (Petroleum--Refining)
(Gas, Natural)

SHCHERBAKOV, B.I.; USOVA, N.P.

Concentration of cell sap and drought resistance of plants.
Trudy Inst. bot. AN Kazakh.SSR 16:97-117 '63 (MIRA 17:8)

11d

CA

Effect of mineral feeding on accumulation and trans-formation of plastic materials in ripening of grain under conditions of plastic materials. S. A. Kasparova and P. G. Usova. *Doklady Akad. Nauk S.S.S.R.* 60, 1307-70 (1948). By controlling the time of planting and the rela-tive amts. of mineral diet it was possible to alter the ripen-ing period of wheat, so that ripening to the waxy state was possible in near-polar regions where ordinarily such ripening cannot be carried out naturally. Increase of P and K by fertilizer (not stated) gives most rapid develop-ment, while the grain also ripens most rapidly after har-vesting with added P-K (11 days); use of N-K and N-P-K addns. gave slower ripening harvested grain (18-19 days). Increased K and P leads to increased synthesis of carbo-hydrates which are stored in the vegetative organs of wheat, but their transfer to the grain is hindered; lying in sheaves leads to gradual transfer into the grain and change into starch; however, most of the carbohydrates still re-main in the stalks. As the grain ripens, the activity of invertase and amylase drops, remaining at the highest level in cases which receive added P and K feeding.

G. M. Kosolapoff

ASB-SLA METAL-ICAL LITERATURE CLASSIFICATION

GRAVE, N.A. [translator]; TOLSTOV, A.N. [translator]; USOVA, T.Y. [translator];
CHIKOTILLO, A.M. [translator]; YEFIMOV, A.I., red.; ZNAMENSKAYA, V.K.,
red.; GRIBOVA, M.P., tekhn. red.

[Frozen ground of Alaska and Canada; a collection of articles]
[Translated from the English] Merzlye gornye porody Aliaski i
Kanady; sbornik statei. S predisl. A.I. Efimova. Moskva. Izd-vo
inostr. lit-ry, 1958. 262 p. (MIRA 11:7)
(Alaska--Frozen ground) (Canada--Frozen ground)

USOVA, Valentina [Usava, Valiantsina]

Glorious and famous daughter of our country. Rab. i sial.
39 no.7:2 of cover J1 '63. (MIRA 16:11)

1. Sekretar' partiynogo kombinata "Chyrvony Perakop",
g. Yaroslavl'.

KOZLOV, M.A.; USOVA, V.P.

Treatment of metastasis of a fibrosarcoma of the uterus to the greater omentum; one observation. Vop. onk. 13 no. 11: 2100-1985. (MIRA 18:8)

1. Iz ginekologicheskogo otdeleniya mediko-sanitarnoy kliniki "Cherepovetsmetallurgstroya", Cherepovets, Vologodskiy oblast (glavnyy vrach -- D.F. Fradkov).

USOVA, V.V.; LAYNER, V.I.

Copper plating of titanium and its alloys. Izv. vys. ucheb.
zav.; tsvet. met. 6 no.4:132-137 '63. (MIRA 16:8)

1. Moskovskiy institut stali i splavov, kafedra korrozii i
zashchity metallov.

(Titanium—Electric properties)

(Copper plating)

L 56025-65 EWT(m)/ENP(t)/EWA(d)/ENP(t)/ENP(z)/ENP(b) IJP(c) MJW/JD
ACCESSION NR AP5016352

AUTHOR: Usova, V. V.; Layner, V. I.

TITLE: Effect of heat treatment on the adhesion strength of electrolytic copper and nickel coatings to titanium

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1965, 14*-150

TOPIC TAGS: titanium, titanium plating, electroplating, adhesion, coating; adhesion, adhesion strength, copper coating, nickel coating/VT titanium

ABSTRACT: The effect of heat treatment on the adhesion strength of electrolytic copper and nickel coatings to titanium is studied. The adhesion strength of the coatings is 30-50 kg/cm² by annealing at 300-400°C for 1-2 hr. Annealing for 1-2 hr at 300°C increases the adhesion strength of the coatings to 100-150 kg/cm² over 500 kg/cm². This increase in adhesion strength is a result of the formation of a diffusion layer at the interface of the base metal and coating. The annealing temperature is also a factor in the formation of metallic compounds, which decrease the strength of adhesion. 5 figures and 1 table.

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[ND]

L 56025-55
ACCESSION NR: AP5016352

Yacodra korrozii i zashchity

L 28067-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015289

(N)

SOURCE CODE: UR/0365/66/002/003/0331/0335

AUTHOR: Usova, V. V.; Layner, V. I.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: The activation of titanium surface prior to electroplating

SOURCE: Zashchita metallov, v. 2, no. 3, 1966, 331-335

TOPIC TAGS: titanium, titanium electroplating, titanium activation

ABSTRACT: The chemical and phase composition of the surface layer formed on titanium during activation in a mixture of ethylene glycol, 48% hydrofluoric acid, and zinc fluoride has been investigated. The investigation showed that the activated layer consists of titanium hydride and zinc hydride. The weight of the layer depends on the duration of activation and the concentration of hydrofluoric acid, and varies from 0.1—0.4 mg/cm². The hydrogen content of the layer depends on the temperature of activation and the concentration of the hydrofluoric acid. For instance, at a hydrofluoric acid concentration of 90 g/l and a temperature of 14 or 30C the respective hydrogen content is 0.059% or 0.017%. At an acid concentration of 70 g/l, the corresponding figures are 0.027 and 0.0084%. The optimum conditions of activation were found to be: hydrofluoric acid concentration 75—95 g/l, temperature 16—20C, maximum duration of treatment 2 min. The layer formed at 30C is rich in zinc, poor in hydrogen, and is loose to such an extent that it is washed away during

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UDC: 621.357.7